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ABSTRACT

The paper discusses the major components of creativity, the relationship of competition and cooperation to creativity, and a model for teaching cooperation to enhance creativity. Creative behavior is directed toward the imaginative construction of what is desired and its eventual actualization in everyday life. Components of creativity include conscious intentionality (purposeful behavior carried out with self-awareness), freedom of choice, and collective effort. Within a competitive society, however, human resources for help in learning are perceived to be scarce rather than abundant: individual efforts rather than collective efforts are rewarded: learning objectives, methods, and criteria for evaluation are determined ahead of time rather than involving the participants: and emphasis is placed on learning technology (research, papers, oral reports) as an end in itself rather than as a means to learning. In a model based on cooperative learning, the physical plant provides open space and the social structure includes teaching and administration as joint efforts. The curriculum centers around a course, required of all students and faculty, concerned with strategies of learning to enhance creativity. Participants are aided in using all their senses and integrating thinking, feeling, and doing in becoming aware. Finally, learning contracts between student and teacher allow the student to assume primary responsibility for his learning and the teacher to act as facilitator. (Author/KC)

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Teaching Cooperation to Enhance Creativity - Theoretical Rationale

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TEACHING COOPERATION TO ENHANCE CREATIVITY - THEORETICAL RATIONALE

Introduction

Our major theoretical premise is that development of human potentialities for creativity necessary for life in the future requires (1) learning how to interact with others in a cooperative rather than a competitive manner and (2) learning how to use cooperation with others for purposes of enhancing the creativity of everyone involved in the learning situation.

In this paper we will present our conception of creativity, major attributes of the creative process, the relationship of competition and cooperation to creativity, and our model for teaching cooperation to enhance creativity. Our conception of creativity is outlined next.

Creativity

Creative behavior is often characterized by originality and expressiveness of one's imagination. However, beyond originality and expressiveness, creative behavior transcends the past and the present by using imagination: (1) to conceive of a desired state of affairs and of ways of achieving it, and (2) to work toward achieving the desired reality in the present. The creative process is a way of fulfilling the longing or search for a new object or state of experience or existence that is not easily found or attained.

While creative behavior makes use of past and current experiences and knowledge, such behavior is not determined and regulated by the past and present. Instead, we believe creative behavior is governed by conscious, self-determined human desires and needs to fulfill human potentialities.

While spontaneity and originality are components of creative behavior these components cannot be equated with creativity. Spontaneous behavior is non-reflective as action is impulsive and often reactive in nature. Sudden, time-limited flashes of awareness and insight may take place but such behavior is largely prompted by reflex acts of desperation, urges and desires rather than by reason and forethought. Originality, in itself, can have a quality of bizarreness and privacy that cannot be easily reproduced, shared and communicated to others. We believe human creativity as transcendance of the past and present to better realize human potentialities requires (1) conscious planned effort rather than reliance only on spontaneity and (2) involvement with others rather than reliance only on original and private behavior. Three major attributes of creativity as conceived here are presented next; conscious intentionality, freedom of choice and collective effort.

Major Components of Creativity

Conscious Intentionality

Conscious intentionality in the creative process means that behavior is purposeful and carried out with self awareness. To elaborate, creative behavior is directed in a conscious and planned way to achieve certain

desired ends with self awareness of the planning process, what goes into it and how it is carried out. Some components of such awareness can be illustrated by using a simple diagram:

Self Awareness

Variables:	How Phenomena is Known Processes of Perception	Identification	Description	Explanation	What is Known
Analysis of Self and Environment					
Desired Human Potentialities					
Agenda for Change					
Strategy of Change					
Effectiveness of Change					

In the diagram some components of necessary consciousness are listed and related to several variables. How phenomena is known is determined by use of particular processes of perception, identification, description and explanation. What is known evolves from use of these processes of knowing.

Behavior that is consciously intentional is rational in nature as it is guided by a conception of purpose where certain means are used to achieve certain anticipated ends. The rationality of conscious intentionality is based on a logical relationship between self awareness and the purposes to which such awareness is directed.

Freedom of Choice

Freedom in making choices among available options for behavior presupposes the availability and the awareness of alternative options and assumes that people have the right of self determination without regimentation, coercion or repression. However, such freedom cannot exist if the prevailing and dominant structure and function of our current society and its educational system is accepted as a determining and unalterable condition within which creative behavior must take place. To act freely is to act on the basis of self management, (1) out of desirability rather than merely expectations of others and (2) out of a conception of possibilities rather than only of necessities. It is the struggle to be free that gives the interaction between people a creative significance beyond pure expectation and necessity. Clearly, freedom of choice, as defined here, is impossible as long as the only context perceived for consideration lies within our historical and current educational system with all its hierarchical apparatus of domination, control and subordination, within bureaucratic agencies which exploit teachers and students alike.

Collective Effort

Collective effort is a critical component of creativity because people working together in mutual, cooperative effort increase choices and options for one another. As a result each individual has a better chance of realizing his or her potentiality. Collective effort, however, requires the action of purposive, self-determining individuals who operate with one another on the basis of equality and caring about one another. The consciously intentional acts of individuals in collective effort are coordinated by common objectives and desired outcomes. Common objectives and desired outcomes are determined out of social interaction through open communication, support, provision of opportunities for participation and control over attempts to minimize the full involvement of everyone. In collective effort, thus, one acts not only to realize and express oneself but also to enable others to do so.

Summary

Creative behavior is thus directed toward the imaginative construction of what is desired and its eventual actualization in everyday life.

The reconceptualization of current and dominant normative and conceptual assumptions about the nature of a possible reality requires creative effort in order to transcend the normative philosophy, logic and intellectual technology of the status-quo. Creative work of people operating out of freedom of choice and collective effort enables people to concretely make their world. As our conception of reality is a social and intellectual construct, to grasp what is real for human potentialities is to conceptually go beyond what is actually present and has been. In our creative conception of reality, making use of conscious intentionality as to direction of effort, the future can be opened up as a relevant possiblity for our lives. Human beings may feel incapable of doing anything about current social reality due to a work-world organized along bureaucratic lines, in which social relations are manipulated and dominated by a technology that most of us do not understand. However, despite such a feeling, human beings can also assume that people are not passive recipients of organizational forms and instruments of technology. Instead, they can assume that our conception of reality is relative to a social reality made by people through their behavior. For example, while technology may be beyond our control, it is itself made by people, used by people and maintained by people. Maintaining a conceptual assumption of the impotence of human beings in the face of bureaucratic organization and technology only serves to perpetuate that impotence. Using the concept of conscious intentionality, previously developed, along with freedom of choice and collective effort in everyday concrete work, human beings, through making themselves, also make their world. Needs, wants, possibilities and desires become interconnected because what is creatively imagined as a hoped for way of life becomes increasingly lived out in the present.

The Relationship of Competition and Cooperation to Creativity

Our theoretical framework for teaching cooperation to enhance creativity is based on eight basic propositions about the relationship of competition and cooperation to creativity.

1. Most people in our society have become socialized to a mode of interpersonal behavior in learning situations that emphasizes values of competition rather than cooperation. Within the competitive value framework human resources for help in learning are perceived to be scarce rather than abundant, individual private effort is supported and rewarded rather than collective effort, opportunity and capacities for learning are based on inequality rather than equality, learning objectives-goals-methods-criteria for evaluation are determined ahead of time rather than based on reciprocity (mutual give and take) among the participants in learning, and emphasis is placed on learning technology (doing a paper, a piece of research, oral report, reading) as an end in itself rather than as a means to learning. The various components noted here that are viewed as an integral part of the value of competition are not mutually exclusive as they are interrelated and reinforcing of one another. The following diagram is used to illustrate the point:

	Competition	Cooperation
Perception of human resources for help in learning	scarce	abundant
Support and rewards in learning	private effort	collective effort
Opportunities for learning	unequal	equal
Perceptions of the capacity for learning	unequal	equal
Learning objectives-goals-methods-criteria for evaluation	determined ahead of time	undetermined and based on interaction between participants learning
Function of learning technology	end in itself	means to learning

2. Participants in most learning situations in our society have learned to behave in relation to the dominant value of competition and the connected secondary values of scarcity, individuality, inequality, determinism of technology as an end; in a system of social relationships that emphasizes superordination and subordination, between students and teachers. These hierarchical relationships represent formal and informal ranking systems that are accepted as "givens" and are not deemed subject to modification. We believe the competitive ethic and the secondary values noted previously require for their maintenance and perpetuation a hierarchy of roles and statuses where control is imposed from "the top" over those on "the bottom", and where power, authority and rewards increase as one moves up the "ladder of success". Social relations of superordination and subordination between participants in learning require the maintenance and perpetuation of competition in order to maintain the necessary percieved scarcity of resources, inequality of capacity and opportunity and of individual private effort.

3. In our society the value of competition and the supporting social relationship of hierarchy are maintained and reinforced in formal learning environments such as schools. Participants in learning are trained to carry out competitive behavior in line with the essential purposes, structures and functions of most schools in this country. These purposes, structures and functions are primarily aimed at preparing students for living in this society as it exists in accordance with dominant values and functions of our society. Schools are a major means for socialization of people in this society to the dominant values of the society.

4. Despite behavior to the contrary most people in our society value cooperation and the related values of collective effort, mutuality of relationship, use of technology as a means to ends and equality of opportunity and capacities for learning. Despite the variance of these values with dominant values of our society they are desired by people and most people, despite resistance, attempt without success to incorporate these values into their formal learning situations.

5. The search for expression of the value of cooperation in learning to enhance creativity is seriously hampered by the lack of an internalized approach to learning conducive to self directed and managed study focused on development of human potentialities. Instead, students bring a model of learning that reflects values of adaptation, accomodation and conformity to whatever seems (in their eyes) to prevail in the social-cultural environment in which they find themselves; within the student group, within particular courses, within the group of teachers and within the general environment of the school.

6. "Getting by", "getting good grades", "getting degrees" and getting other kinds of symbolic indicators of achievement with the least amount of intellectual effort is the prime objective of many students who often present themselves as part of the formal educational machinery that grinds out similar products in an assembly line fashion.

7. Learning environments explicitly designed to enhance creativity need to be created in such a manner that organizational purposes, structures and functions directly contribute to this objective as the primary rather than secondary focus. In this regard all academic courses should have as their primary purpose the enhancement of the creativity of students where the teaching of particular subject matter is a means to that end.

8. Through cooperatively learning how to take increased responsibility for learning and how to help others learn, students in formal learning environments, such as schools, will be in a better position to transfer approaches to learning beyond the period of formal education out of the school into other activities of day-to-day life. In this sense, learning is not necessarily restricted to a classroom, isolated from its impact on other aspects of daily life and future learning.

All eight propositions are connected by several common themes that flow through them. First is the impact of prior socialization upon the development of individual approaches to learning and the creation of formal learning environments, such as schools. Second, approaches to learning and the design of formal learning environments in this country have been coordinated with the value of competition and not primarily concerned about the fostering of creativity. Finally, implicit in the propositions is the belief that the creation of approaches to learning and formal learning environments conducive to creativity requires a drastic restructuring of dominant educational purposes, structures and functions.

A Model for Teaching Cooperation to Enhance Creativity

Our model based on theoretical propositions previously noted, considers the organization of the school, some elements of a desired curriculum and an approach to learning. First the organization of the school will be discussed.

Organization of the School

The desired value framework of cooperation to enhance creativity and the secondary associated values can provide a unifying force for action among all participants in the educational process. They can, as well, provide a desired value context for consideration of organizational means for educational practice consistent with these values. These values can be used to determine how schools are organized and behavior that is expected on the part of faculty, staff and students. In order to accomplish such a task, value statements need to be made specific and explict so they can be understood in their behavioral meaning, as distinguished from vague abstraction. One way to operationalize such value statements is to develop implications for behavior by specifying the organizational means for implementing such values.

First, the value of developing human potentialities for creativity can be operationalized by using the technology of learning contracts for students, and performance and development contracts for faculty. These will create quality learning and teaching centered on the development of student and faculty potentialities. Putting expectations in written contract form can provide means for helping students and faculty become explicit and concrete about what they hope to accomplish, how they plan to reach objectives, and how they plan to evaluate results. Sepecific arrangements are worked out in the contracts for allocation of necessary resources to help carry out expectations and to obtain necessary feedback through evaluation. Such feedback provides useful information for periodic correction and revision of contracts. Use of contracts builds accountability and responsibility for performance and development, as well as provides a means for personal monitoring of one's work. Role and performance expectations are defined explicitly in the contracts, instead of the usual practice of vague verbal agreements.

Second, to carry out the value of cooperation with an emphasis on collective effort, planned use can be made of organizational structure, both physical and social, to promote relations along horizontal lines of equality, rather than vertical lines of hierarchy.

For example, a physical plant that provides open space instead of isolated cubicles is conducive to people getting together. Arrangements can be made for interior walls that are removable or folding or taking them down; work resources for students, staff, and faculty necessary for all in central locations; joint recreation and leisure time space used by all faculty, staff, and students; and use of individual space based on demonstrated need rather than formal position, status, or title.

Social structure conducive to the value of cooperation can be enhanced by requiring that faculty workloads of administration, and teaching be carried out by joint rather than individual effort, and by weekly meetings of the entire faculty and staff for an hour to consider the current problems of operation in the school and to share information. Joint work arrangements and regular collective problem-solving through regular group meetings can be carried out by students in a similar manner. The focus of the daily meeting, coordinated by administrative staff, is on here and now everyday problems of operation in the school, as well as sharing information of concern to the entire school community.

Clearly such a procedure can not only cut down on the amount of communication through paper, but more importantly can provide a daily opportunity for reinforcement of the feeling of togetherness and sense of espirit-decorp that is an essential and integral part of cooperative effort.

Finally, such an arrangement provides the opportuniy for open communication and interaction among all, instead of a few, and for immediate, rather than delayed, attention paid to concerns of faculty, staff and students.

A Desired Curriculum - Beginning Phases

A specific course concerned with strategies of learning to enchance creativity is suggested as a basic foundation for the curriculum. All students and faculty should be expected to participate in it. The overall objective of the course is to help the students develop potentialities as learners and the faculty to develop abilities as facilitators and enablers of learning. The course has two related purposes within the overall objective:

1. Helping the students and faculty work through tendencies to adjust and adapt to preexisting definitions of reality and of the possible by undoing or rendering ineffective prior conditioning twoard a non-learning position.

2. Learning how to use alternative perceptual processes of awareness and alternative cognitive processes of analysis and synthesis.

The perspective of the course is based on certain assumptions about the new students and faculty. New students and faculty entering the school are assumed to have come from prior educational experiences where the focus of work was on the learning of certain kinds of information and skills rather than on how to learn.[1]

More specifically, little help is given students to develop and expand their capacities of perception, cognition and communication as they naturally seek to explore who they are, the physical-cultural-social environment they live in and their relation to it. Students in our society are, instead, conditioned to perceive, understand and communicate in limited and prescribed ways, From the beginning of the period of formal education, students are madatorily placed in a environment where they are "done to" and "for" rather than worked "with." With some exceptions, the dominant model of formal education from elementary school on is to make sure that students adhere to prevailing values of the society. Critical examination of these values and development of alternatives does not take place in an educational system dedicated to the purpose of insuring conformity to prevailing values.

Within the course "Strategies of Learning," students are helped to "see", in contrast to "look," at themselves and their environment. "Seeing" means perceiving the essence of something as it is from a relationship of intimacy with it.[2] "Looking" is perception from a detached observing

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[1]Hereafter both students and faculty taking the course will be referred to in the text as "students."

[2]The meaning of "seeing" and "looking" can be further explored by examining the works of: Carolos Castaneda, The Teachings of Don Juan (New York: Ballintine, 1969); A Separate Reality (New York: Simon and Schuster, 1971); Journey to Ixlan (New York: Simon and Schuster, 1972); Tales of Power (New York: Simon and Schuster, 1974); Daniel C. Noel ed., Seeing Castaneda: Reactions to the "Don Juan" Writings of Carlos Castaneda (New York: Putman's and Sons, 1976); Richard DeMille, Castaneda's Journey (Santa Barbara, California: Capra Press, 1976; Ram Dass, The Only Dance There Is (New York: Anchor, 1974); Joseph C. Pearce, The Crack in the Cosmic Egg (New York: Pocket Books, 1973); Exploring the Crack in the Cosmic Egg (New York: Pocket Books, 1975); Roberto Cavanna, ed., Psi Favorable States of Consciousness (New York: Parapsychology Foundation, 1970); Sidney Jourard, The Transparent Self(New York: D. Van Nostrand, 1971); Joseph Gabel, False Consciousness --An Essay on Reification (New York: Harper and Row, 1975); Michael Polanzi, Personal Knowledge (New York: Harper and Row, 1964); Robert E. Ornstein, ed., The Nature of Human Consciousness (San Francisco: W.H. Freeman, 1973); The Psychology of Consciousness (New York: Viking Press, 1972).

position disconnected from the phenomena. "Seeing" is perceiving in a noninterpretative way where "looking" is perception in relation to an interpretative screen--what one perceives is determined by the meaning one seeks of the nature of the phenomena. In contrast to "looking", "seeing" is an active rather than a passive orientation that reflects a desire and pleasure in knowing, understanding and relating with what is presenting itself. "Looking" is a guarded glance at what is going on usually for the purpose of controlling or being controlled by some phenomena.

Cognition coupled with "seeing" takes place in a two-part sequential process--description of "what is happening" followed by interpretation (assignment of meaning for the perceiver). The data base (basis) for "seeing" requires a description of what is transpiring that includes the perceiver--a description of what is happening with the perceiver in the perceptual field. In contrast to "looking", "seeing" means participation and engagement with "what is happening" or, in other words, inclusion in rather than exclusion from the perceptual field. Engagement in "seeing" means participation that includes thinking, feeling and doing. Such participation means making use of all the senses; hearing, touch, smell, and sight. The senses in "seeing" are integrated instead of closed and disconnected, and they influence one another in an open, integrated and reciprocal fashion.

Cognition connected to "seeing" means a conscious awareness of these dimensions, as well as their integration, in the process of description and assignment of meaning (interpretation). Consequently, the cognitive processes of analysis and synthesis coupled with perception based on "seeing" reflect an awareness of what is occurring within the person using the process.

Undoing or rendering ineffective prior conditioning toward a non-learning position requires helping people learn how to make use of a perceptual-cognitive process of analysis and synthesis based on "seeing" and what is necessary in order to "see." People are helped to use all their senses and integrate thinking, feeling and doing in becoming aware. Through interpersonal support and opportunities for practice students learn new processes of perception and cognition. Such activity in itself is experienced as personally enhancing and enjoyable. Oneself, others and the world are perceived and known as interconnected. The self is experienced as alive, interacting and influencing the world in a creative manner rather than as a commodity (object) and as powerless to influence events.[1]

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[1] See the literature on creativity for amplifications of this position: Silvano Arieti, Creativity: The Magic Synthesis (New York: Basic Books, 1976); Calvin W. Taylor, ed., Creativity: Progress and Potential (New York: McGraw and Hill, 1964); Calvin W. Taylor, Climate for Creativity (New York: Pergamon, 1972); Harold H. Anderson, ed., Creativity and Its Cultivation (New York: Harper and Row, 1959); Morris I. Stein, Stimulating Creativity, No. I: Individual Procedures (New York: Academic Press, 1974).

As students become engaged in the new alternative and gain experience with it they begin to recognize that viewing oneself, others and the physical environment as commodities requires a separation of thinking, feeling and doing. Such separation contributes to a mystification and severe gap in awareness and cognition.

Perception that is isolated and detached from that which is observed about the self, others and the physical environment (looking) requires a disconnection (separation) of the relationships between the senses (sight, hearing, smell and touch) and of the relationship of the senses to thought and action. Such disconnection and isolation is often experienced as mystifying, as forces beyond one's control that serve to confuse and cloud perception of reality. Experiencing of oneself, others and they physical environment as objects (things) is not seen as personally rewarding or as having real utility.

A hierarchical system of statuses and roles often serves the function of covering up and distorting awareness and cognition. A hierarchical status system of subordination and superordination further disconnects and separates people from the possibility of awareness and cognition that can come from being an integral part of that which is perceived. To reiterate, hierarchy, in contrast to horizontal social arrangements, requries a relationship of control, controlling others or being controlled by others.

Perception of self, others and the environment as commodities from a position in a hierarchy of superordination--subordination inherently means control or being controlled by commodity relations of exchange and replacement. Commodity relations are relations of objects which can be created, exchanged, replaced and eliminated without any perceived human investment or loss. As commodities, human beings and their physical environment do not have properties that are seen as having value in themselves, as having lasting value and of being connected with one another.

Thus, as commodities in hierarchical relationships of domination and control relationships between men and women can be freely exchanged on the market place without severe personal disruption. Workers in industry can be laid off, transfered or replaced, people can be eliminated through killing, air and water can be polluted, and fish and game can be destroyed, all without personal concern.

Students identify and examine the prevailing mode of consciousness described here by using themselves as examples. Through peer and instructor support and opportunities provided in the course for self examination students explore how they perceive and assign meaning to their perceptions. Students recognize that "looking," viewing oneself and the world as commodities in hierarchical social arrangements, is learned through a process of early socialization and is not part of one's intrinsic biological make up. Instead, people are born with the capacity to "see" and begin to use that ability in identifying themselves with the world rather than apart from it. In our culture that capacity and developing ability of the child is suppressed by

parents and other socialization agents who attempt to replace it with one more compatible with prevailing cultural values.[1] Students gain additional familiarity with different ways of perceiving and knowing through work with one another, reading, lectures and trying out new ways of learning in other classes taken during the summer as part of the remedial program.

The process of work in the course to achieve objectives noted here has many variations. One approach is briefly described next.[2]

The Process of Course Work

The course is held early in the morning in a comfortable setting where chairs, blackboard and tables can be moved around as desired.

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[1] For a sample of the literature explaining the relationship of perception and cognition to social learning see the following references: Paulo Freire, Cultural Action For Freedom (Harvard, Mass., Center for the Study of Development and Social Change, 1970); Pedogogy of the Oppressed (New York: Herder and Herder, 1972); Education for Critical Consciousness (New York: Seabury, 1973); Jerome Bruner, On Knowing (Cambridge, Mass.: Belknap, 1962); Toward a Theory of Instruction (Cambridge, Mass.: Belknap, 1967); Charles M. Solley and Gardner Murphy, Development of the Perceptual World (New York: Basic Books, 1960); Irvin Rock, Introduction to Perception (New York: Macmillan, 1975); Richard Jessor and Seymour Fishback, Cognition, Personality, and Clinical Psychology (San Francisco: Jossey Bass, 1967); Jeff Berner, The Innerspace Project (New York: World, 1972); Robert Harper, et al., The Cognitive Process: Readings (Englewood Cliffs: Prentice Hall, 1964); Wilson Van Dusen, The Natural Depth in Man (New York: Harper and Row, 1972); James E. Taylor, The Behavioral Basis of Perception (New Haven: Yale University Press, 1963); Peter A. Fried, Readings in Perception (Levington, Mass.: D.C. Heath, 1974); John Elliot, ed., Human Development and Cognitive Processes (New York: Holt, Rinehart, and Winston, 1971); Paul Garvin, Ed., Cognition: A Multiple View (New York: Spartan, 1970); Benjamin L. Whorf, Language, Thought, and Reality (New York: MIT/Wiley, 1959).

[2] Ideas for the course evolved out of experience in several ventures: 1. Work with Blair Osborn in conducting a course entitled Technology and Meeting Human Needs at the University of Washington during the academic years 1974-1976. 2. Collaboration with Penny Baker conducting several seminars for teachers and members of interested community groups in the state of Washington on the topic "Helping Students Learn" during the fall and winter of 1975-1978. 3. Personal experience as a jogger and long distance runner over the past twelve years. 4. Personal experience on sailing voyages from Seattle, Washington to Alaska and back on my 26 foot sloop "Gemini" during the summer of 1975 and from March to August 15, 1976. 5. Pretest of the ideas in a pilot run of the course with 10 graduate students at the University of Washington, Spring quarter 1978.

During the first week the instructors explain the purpose, structure and function of the course in the overall school curriculum.[2] The orientation of the instructors is presented as well as some discussion about the sequencing of activity in the course. Adequate time is given to include questions and concerns about the course. Students are asked to introduce themselves to one another and to say anything they want about themselves and what they want out of the course.

Initially, despite professed intentions to the contrary, most students resist attempts during the second hour of the class to get them to try out alternative approaches to perception and cognition. Such resistance takes the form of "faking" the exercise, emotionally blocking out the experience, intellectually denying the validity of the experience and refusal to participate. While no one is forced to participate everyone is required to attend the sessions and observe. After the exercises are completed adequate time is paid to difficulties and resistance to full involvement in the experience.

Invariably, students report experiences of considerable stress as they struggle to maintain existing modes of perception. They categorize their initial experiences with "seeing" as "loss of control," "going insane" and "losing myself." With gradual incorporation of new ways of learning, considerable conflict is experienced as both the old and the new ways of learning operate simultaneiously.

At this point students need considerable support to "hang in there" and continue work to resolve the difficulties they are experiencing. Particular attention is paid to what is going on in the process of class interaction among students and between students and instructors. Some students begin to miss class or come late and attempts are made to "bait" or manipulate instructors into premature resolution of stress. Such attempts to reduce stress take the form of (1) direct and aggressive confrontation of the instructors, and (2) bringing in outside influences to alter what is happening, such as pressure from friends, other faculty and administrators.

A relatively sophisticated and difficult to handle maneuver to alter expectations for new forms of behavior is use of the transactional "game" called "stupid." In this "game" the person in the student position initiates a request for clarification or explanation by the instructor. On the social level this sounds like a request from the student seeking factual information from the instructor. However it soon becomes clear when the student cannot understand after several explanations that something more is going on.

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[1] At least two instructors are necessary for each group of twenty students, given the requirements of intensive work with students.

If the teacher is hooked into the game and has entered an all-knowing "Professor" state the instructor will be feeling frustrated and insecure. If theis is an intensive game the student may elicit further explanations with protests that it is stupidity (the student's) that is creating the difficulty. As the student continues to be confused, the game payoff materializes when the student and instructor switch positions and the instructor feels stupid because he or she cannot clarify the question. This is an extremely difficult position for the instructor because of feeling "had" and angry, even when belatedly recognizing what is happening. Breaking off the explanatory dialogue and changing the focus to another subject or activity without discussion is usually effective as the student will grasp that the instructor has recognized the game and withdrawn. Unless there is an established commitment to an analytical process between the student and instructor, it is preferable to forego confrontation of the game as the student will only protest that he doesn't understand!

Games such as "stupid" describe typical patterns of interaction between people in which what appears to be going on the surface (social) level is quite different than the action on the hidden or psychological level. A person is described as being "hooked" when he is interacting on the psychological as well as the social level and involved emotionally in a sense not disclosed by words. The outcome or payoff of the game transpires when the participants switch positions and achieve a particular emotional state such as being "defeated" or "frustrated", which affirms their underlying existential positions about themselves in the world.[1]

At the point of considerable stress on the students, the instructors' authority of competence is severely tested as the students need to feel secure and protected against adverse outcomes as well as having some sense that the new alternative will be more rewarding than the old. Students give up battle behaviors, relax and open up to incorporation of new alternatives to learning as they feel the strength of protectice controls and get a glimpse of rewarding new opportunities for learning.

Of critical importance during the period where students may be immobilized or "stuck" in their progress in the course is to make use of all available resources and facilities to open up perceptual systems. One way that can be effective is to help students become more aware of their body and its functioning. Students who are tense are helped to relax

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[1] My personal understanding of the game of "stupid" and what to do about it has taken place through work with Penny Baker and examination of the writings of Eric Berne, in particular, Games People Play (New York: Grove Press, 1964), pp. 157-159.

through active physical exercise that loosens up parts of the body that are tied up and disconnected from other parts. Those who move in tight, constricted, jerky and uncoordinated ways are helped to move in a loose, free, flowing and coordinated manner. The exercises are invariably experienced as physically and emotionally enhancing. As self awareness is increased feelings of shame and embarrassment about the condition of one's body are expressed as well as more positive feelings. Such feelings are not minimized or avoided but instead used to promote increased awareness of the situation as well as what might be done about it.

At this point student consideration of alternative ways of resolving difficulties are within the framework of conventional solutions, such as dieting and exercise. Quantitative solutions, eating more or less food and getting more or less exercise, do not represent a qualitative shift of life style that course instructors are trying to help students examine. While eating less food and getting mroe exercise may be a necessary step it is normally not a sufficient condition to full recognition of different kinds of opportunities available for physical health. Qualitative consideration of physical health that is coupled to emotional and intellectual conditioning for new and different perception of the possible must be approached by significantly altering the conditions of normal everyday experience.

One useful way to help students bring about such a qualitative shift in orientation is through running. Running is a simple, cheap and readily available way of improving circulation, breathing, general muscle tone and of getting in touch with one's body. Running, in contrast to a sedentary activity, requires movement and activity of body mechanisms. However after years of sedentary life and conditioning to a passive non-physical existence many people do not know how to run in a way that is enjoyable and enhancing to daily life. Running can also lead to new forms of emotional and intellectual awareness but opportunities for such awareness must be structured into the activity of running as they are not an integral part of the physical process of running itself.

To help students learn what can be accomplished through running structured experiences can be worked out. One plan suggested here is to have all students assemble several hours before class in a suitable place, such as a park or high school track, where everyone can take a slow jog of forty-five minutes. Instructors explain and show participants how to jog and correct difficulties during the course of the exercise; breathing, leg and arm movements and pace. Right after the run participants assemble and discuss the event with instructors giving feedback on what they observed. Typical difficulties are (1) competition in trying to outdo one another instead of cooperation with one another, (2) disconnection from the physical environment by fighting or struggling with it, such as complaints about the weather, terrain and scenery and (3) not allowing oneself to relax, "clear the mind" and take an easy pace.

After several practice sessions students are asked to complete a homework assignment for a monthwhere they jog by themsevles for one hour a day at an easy pace and allow atleast some time for their mind to freely wander. Warm up exercises of fifteen minutes are recommended prior to the run and afterwards.

Comments are made in a daily log about the run and reactons to it. Instructors are available for consultation during the month and logs are reviewed by the instructor and student during individual conferences in the middle and at the end of the period of the assignment. Reading is assigned to support the student's effort and to provide ideas for carrying it out.[1]

To reiterate, the major purpose of the assignment is to help the student examine the possibilities in running for working through blocks to learning and for making use of new alternatives. Running loosens up the mind and provides daily outlets for tension and frustration. Daily running also stimulates the body and sharpens the senses as well as promoting physical health and vitality. However, in terms of the objective of the course, it is the psychological and intellectual benefits that can be connected to physical benefits of running that offer the greatest payoff.[2] Such benefits are self confidence and the ability to use one's imagination in an altered state of consciousness to create insights that can be carried over and used during the rest of the day.

While other recreational activities such as swimming, sailing and tennis can provide similar experiences, running affords a cheap, readily available and easy to learn method for making use of the approach to learning suggested here.

During the latter phases of the course attention is placed on ways students can integrate new ways of learning into daily life experiences outside the classroom as well as in future activities. The students experience in the course is usually not representative of typical experience outside of it.

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[1] Examples of assigned reading are excerpts from: Joe Henderson, Run Gently, Run Long (Mountain View, California: World Publications, 1974); The Long Run Solution (Mountain View, California: World Publications, 1976); George Sheehan, M.D., Dr. Sheehan on Running (Mountain View, California: World Publications, 1973); Joan Ullyot, M.D., Womens Running (Mountain View, California: World Publications, 1976); Editors of Runners World The Runners Diet (Mountain View, California: World Publications, 1972); E. C. Frederick, The Running Body, (Mountain View, California: World Publications, 1973); William Glasser, Positive Addiction (New York: Harper and Row, 1976); George Leonard, The Ultimate Athlete (New York: Avon, 1975).

[2] To reemphasize, such benefits must be structured into the activity of running and utilized. For example, competitive running in races where emphasis is on winning does not lend itself to the purposes of running suggested here.

The disconnection of work in the course is usually not representative of typical experience outside of it. The disconnection of work in the course from other daily life experiences is openly examined and avenues are sought to bridge the gap so that direct connection and expansion of work can be accomplished. In this regard, of crucial importance during the last several weeks of the course is the necessity to make sure that the new strategy of learning is anchored securely outside the classroom in the student's everyday experiencing of self, others and the physical-social and cultural environment. Unless such connection is made and solidified it is only a matter of time before the experiences of the course and rewards that may have been achieved will fade away and become dissipated. Thus, supports, controls and opportunities for continued learning need to be incorporated into the ongoing life of the students. Such work beyond the course require the students taking primary responsibility for such effort.

An Approach to Learning

One way that the value of cooperation to enhance creativity is operationalized in practice is through the use of learning contracts whereby the student, is through the use of learning contracts whereby the student, in consultation with the teacher of particular courses, develops a specific plan for learning. Such a plan takes on the form of a legal contract where the student and teacher are both held accountable for performance. The development of the contract begins with consultation with advisors prior to the beginning of classes the first part of the academic year. At this point, a tentative written agreement is reached between the student and advisor regarding the learning plan for the year. While the agreement is general and open-ended, it clearly conveys a declaration of basic interest and intent by the parties involved. Work on the agreement continues during the first several weeks of school to revise, clarify and specify the meaning of the agreement.

With the help of the advisor, the student develops a statement of goals, means to goals and a way of working that represents an educational plan in which both the student and school are invested.

The role of the advisor in this plan is to act as a resource for the student in facilitating and enabling the student's development of an educational plan in which both the student and school are invested.

The role of the advisor in this plan is to act as a resource for the student in facilitating and enabling the student's development of an educational plan consistent with the basic goals and objectives of the school and a plan that can be evaluated as to whether it is followed or not.

First, the student is helped to develop goal statements in such a way that the student, advisor, and class instructors can determine if the goals are realized. Consequently, goal statements need to be concrete and stated in measurable terms. For example, terms like "develop my pontential" and "learning how to be an effective student" are ambiguous and cannot be measured. The student may start with such abstract notions about goals but needs help in order to break down these abstractions to the more specific level of evidence about realization or nonrealization of goals.

The next step is to take the specific goal statement and break it up into three parts; better than acceptable achievement, acceptable achievement and less than acceptable achievement. Division of goal statements in the three parts helps the student consider possible performance alternatives and provides a basis for evaluation of each alternative.

The student then follows a similar procedure for each category of goal, making sure that they are both specific enough to be measurable and that the alternative meanings of acceptability are explicit and distinct from one another.

After this work is completed and after discussion with the adviser, the student goes back and circles the dimension of acceptability he or she expects to accomplish: better, acceptable, or less. Items circled represent what is viewed by the student and adviser as a desired, workable and manageable plan. Both the student and adviser sign the plan and keep a copy for their later use. The learning contract at this stage represents a plan to be used by the student and school and it can be the basis for formal evaluation of the student's academic performance. As the student progresses the contract can be altered to meet the changing expectations of the student. For example, goals may change as well as resources and processes for goal attainment. Thus the learning contract is not a rigid, static and unchanging statement that binds the student to a particular plan irregardless of changing circumstances. Instead, it is intended to be flexible and open to changes as needs arise. However, it is clearly a mechanism designed to support the student's self realization and assumption of responsibility for learning by a process that insures both workability and accountability.

The student then signs up for specific courses based on the learning contract and modifies it accordingly through consultation with course instructors. The student's advisor may be called in to help resolve disputes and differences of opinion regarding learning objectives and means for achieving objectives. The contract then becomes the basis for evaluation of the student's performance and for consideration of next steps in learning.

In the classroom focus of attention is on helping students achieve what they have contracted to learn. Students assume primary responsibility for their learning and the teacher acts as a facilitator and enabler of the process of learning. In this process the instructor does not attempt to provide answers and is not viewed as the repository of knowledge to be given to students. Instead, the teacher helps develop critical questions and issues that set the state for intellectual inquiry and cooperative search for answers. The instructors primary mission is to keep track of the process of learning and to help students examine and remove obstacles to learning.

FORM FOR LEARNING CONTRACT

Goals: 1 2 3 4

Better than Acceptable

Acceptable

Less than Acceptable

How goals are to be achieved:

Better than Acceptable

Acceptable

Less than Acceptable

Resources necessary for goal attainment:

Better than acceptable

Acceptable

Less than Acceptable

Where work will occur:

Better than acceptable

Acceptable

Less than Acceptable

When work will occur:

Better than Acceptable

Acceptable

Less than Acceptable

How work will be evaluated:

Better than Acceptable

Acceptable

Less than Acceptable

Signed:
Student:
Advisor:
Date:

Summary

In this paper we have presented our theoretical rationale for teaching cooperation to enhance creativity. We have defined critical terms such as what we mean by creativity and major components of the creative process, the relationship of competition and cooperation to creativity, and finally we set forth our model for teaching cooperation to enhance creativity.

This paper is to be used as background information for the specific skill exercises in the workshop held at The Second Annual Conference of the Education Section - World Future Society, October 17-21, 1979 in Minneapolis, Minnesota. The exercises used in the workshop further develop in more specific detail what we present here. Further information can be obtained by writing us at 9216 3rd Ave. N.W., Seattle, Washington, 98117.

BIBLIOGRAPHY OF SUGGESTED READINGS FOR TEACHING COOPERATION TO ENHANCE CREATIVITY

Bowman, Jim; Kierstead, Fred; Dede, Chris; Pulliam, John. The Far Side of The Future. Washington, D.C: World Future Society, 1978.

Excellent review of recent literature analyzing future alternatives for education based on a critical examination of current modes of education. If any one book is to be selected from this is it!

Macdonald, James; Anderson, Dan; May, Frank. Strategies of Curriculum Development. Columbus, Ohio: Charles E. Merrill, 1965.

A classic work on curriculum theory that serves to clarify and resolve issues of the relationship between society, the learner, and the existing state of knowledge. Curriculum theory and design is related to improvement of instructional theory and practice and the analysis of classroom episodes as a method of inquiry for testing ideas about curriculum design and instructional theory.

Illich, Ivan. Deschooling Society. New York: Harper and Row, 1971

In this very provocative book Illich critically examines the function of schools in our society in promoting our increasingly mechanistic, consumer-oriented world. He sets forth the argument that schooling, as opposed to education, has become the primary concern of educators.

Barr, Donald. Who Pushed Humpty Dumpty? New York: Atheneum, 1971.

The author challenges educational dogmas and critically evaluates permissive and rigid approaches to education. Of particular interest is his focus on the development of student competence and mastery of knowledge through attention to how students learn.

Havighurst, Robert and Neugarten, Bernice. Society and Education. Boston: Allyn and Bacon, 1975.

An updated and revised version of a widely used elementary text.

The book provides a useful overview of the educational system in the social structure (Part 1), the school as a socializing agency (Part 2), the educational system in the community (Part 3), the educational system in the wider society (Part 4) and the teacher (Part 5).

Drabich, Laurence W., ed. Interpreting Education. New York: Appleton Century Crofts, 1971.

An excellent compilation of essays that examine the educational institution in this society.

The framework for analysis makes use of a given set of concepts; social position, social role, normative behavioral prescription, sanctions and the functional relationships that occur between positional occupants.

Pritzkan, Philo. On Education for the Authentic. Scranton, Penn: International, 1970.

An interesting little book on how to help people learn to extend their sense of existence, based on critical analysis of current education that serves to restrict meaning of existence.

A useful analysis of the nature of closed learning systems and on fixed notions of reality that prevail within our educational system.

Rossman, Michael. On Learning and Social Change. New York: Random House, 1972.

An interesting critique of the institution of higher learning in this country from the perspective of one who has struggled to change it.

A popularized and well written account of attempts at change during the 1960's, with particular focus on the University of California at Berkeley.

Kerensky, Vasil and Melby, Ernest. Education II Revisited: A Social Imperative. New York: Pendell, 1975.

A critique of modern day education in this country. The authors position is that old educational concepts are no longer viable for today's society and that knowledge of present reality of life in this country must be used to construct different approaches to education.

Holt, John. What do I do Monday? New York: E.P. Dutton and Co., 1970. Freedom and Beyond. New York: E.P. Dutton and Co., 1972.

Holt, a prolific writer on educational issues, has written a good deal about the inadequacy of the educational institutions of this country. The two books selected here are representative of his position.

The bibliographies at the end of both books provide a guide to pertinent literature.

Silberman, Charles. Crisis in the Classroom. New York: Random House, 1970.

The author presents explicit recommendations for the improvement of schools to enhance the creativity of learners. Through numerous case examples he illustrates how public schools in this country have become intellectually sterile and oppressive places for both students and teachers alike.

Gross, Ronald and Beatrice, ed. Radical School Reform. New York: Simon and Schuster, 1969.

An excellent collection of essays by authors who examine the role of the school in society and who present first hand reports on actual attempts to get at real education of students rather than schooling of them.

Bruner, Jerome. The Process of Education. Harvard University Press, 1961; On Knowing. Harvard University press, 1962; Toward a Theory of Instruction. Harvard University Press, 1966.

Bruner develops an approach to education to enhance creativity in these books that emphasizes the process of learning rather than specific content or substantive knowledge. He places primary emphasis on helping students understand the essential structure of a body of knowledge rather than its detail. These books are must reading for anyone not familiar with his work. Our own work in teaching cooperation to enhance creativity is largely based on the ideas of Jerome Bruner.